

## **REMARKS**

### **Claim Status**

Claims 60-68 have been withdrawn by the Examiner as being drawn to non-elected invention in the Office Action mailed on 27 February, 2008.

### **Claim Amendments**

Claim 45 has been cancelled.

Claim 56 has been amended by replacing term “(LXXIV)” with the term “(LXXIX)”. Support is found in Claim 27 of the English translation of the original PCT/EP2004/009019 application.

### **Election/Restriction**

In the Office Action mailed on February 27, 2008, the Examiner required that Applicants select one of the two inventions for the prosecution on merits. The Examiner restricted the claims to the following two groups:

Group I, claims 37-59 and 69-72 drawn to the polymer.

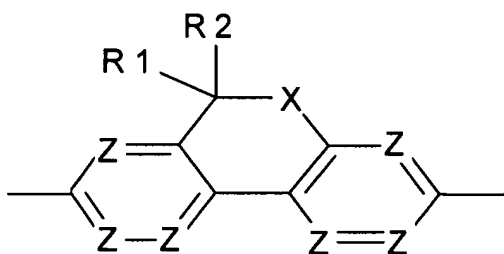
Group II, claims 60-68 drawn to a monomeric bifunctional compound and the method of preparing the same.

The Examiner stated that the inventions listed as Groups I and II do not relate to a single general inventive concept under PCT Rule 13.1 because they lack the same or corresponding special technical feature under PCT Rule 13.2.

Applicants respectfully disagree with this statement (see below for detailed explanation). Applicants hereby affirm election, with traverse, of the invention of Group I, Claims 37-59 and 69-72, drawn to a polymer, made by Steven G. Davis, with oral traverse in the telephone conversation on January 10, 2008.

### **Applicants Traverse Restriction Requirement**

Applicants state that the common technical feature for the Groups I and II is a moiety of the following formula that forms part of either a polymer or a polymerizable monomer:



Applicants note that the common technical feature for Groups I and II, presented above, is novel over EP 1074600 by Noguchi *et al.*, for reason discussed in the section of this paper responding to the rejection under 35 U.S.C. §102. Under PCT Rules 13.1 and 13.2, in order to assert lack of unity the Examiner should present evidence that the special technical feature is not novel. Absent such evidence, the restriction requirement is improper and should be withdrawn.

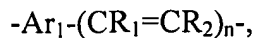
#### Claim Objections

Claim 45 has been objected due to the following informalities: there is a typo in lines 1 and 2 such that reads “comprises units further comprising additional units” rather than “further comprises additional units”. Claim 45 has been cancelled, rendering the objection moot.

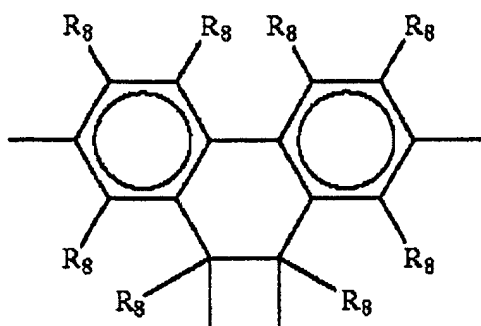
Claim 56 has been objected due to the following informalities: there is a typo in line 2 such that reads “formulae (LXXIV)” rather than “formulae (LXXIX)”. Claim 56 has been amended to correct for minor typographical error in line 2, by replacing term “formulae (LXXIV)” with the term “formulae (LXXIX)”.

#### Rejection of Claims 37-45, 49-59 and 69-72 under 35 U.S.C. §102(b)

Claims 37-45, 49-59 and 69-72 have been rejected as being anticipated by Noguchi *et al.*, EP 1074600 (hereinafter, “Noguchi”), under 35 U.S.C. §102(b). The Examiner stated that Noguchi teaches a polymer containing at least 10 mol% of units of the formula:



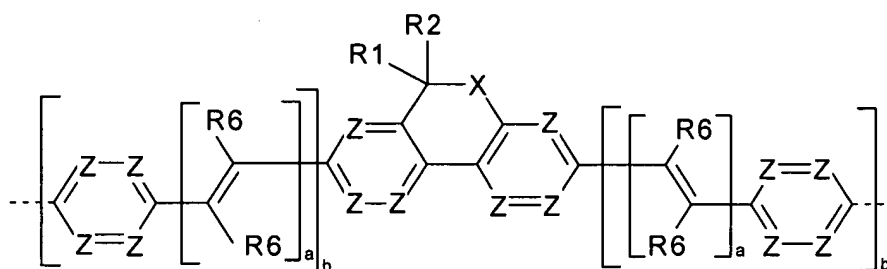
where  $\text{R}_1$  and  $\text{R}_2$  are hydrogen, an alkyl group having 1 to 20 carbon atoms, or an aryl group with 6 to 60 carbon atoms, and  $\text{Ar}_1$  is:



. (Page 3 and 4 bridging paragraph in the Office Action

mailed on February 27, 2008)

The instant invention discloses a polymer, characterized in that it comprises at least 1mol% of units of a formula (I):

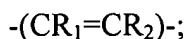


FORMULA (I)

Noguchi does not teach a polymer of the formula (I) as discussed in the following analysis:

1) There is no combination of the variables a and b, from the formula (I) to give the polymer of the formula  $-\text{Ar}_1-(\text{CR}_1=\text{CR}_2)_n-$ , as disclosed by Noguchi:

a) In the case that a is 0 and b is 0, 1 or 2, the repeating unit is the dihydrophenanthrene unit having respectively, zero, one, or two aromatic rings contained within the brackets "b", either on one or on both sides of the dihydrophenanthrene unit. Such a repeating unit is novel over Noguchi, due to the fact that it does not contain a "vinylene unit":



b) if a is 1, either on one or on both sides of the dihydrophenanthrene unit, the repeating unit only contains "the vinylene unit(s)", if b is 1 or 2. However, if b is 1 or 2, the repeating unit not only comprises the dihydrophenanthrene unit and the vinylene unit(s) but also the aromatic ring(s) contained in the "b" bracket(s). It follows that the repeating unit comprises additional structural elements that have not been disclosed by Noguchi and therefore it is novel in the view of Noguchi.

In view of the above, Claims 37-45, 49-59 and 69-72 are novel over Noguchi. Reconsideration and withdrawal of the rejection are respectfully requested.

Rejection of Claims 46-48 under 35 U.S.C. §103(a)

Claims 46-48 have been rejected as being unpatentable over Noguchi under 35 U.S.C. §103(a), as applied to Claim 37, and further in view of Baldo *et al.*, Appl. Phys. Lett., 75(1),1999, (hereinafter, Baldo).

The Examiner stated that Noguchi teaches the polymer of Claim 37. The Examiner stated that Noguchi does not teach units that provide electrophosphorescence to the polymer. However, Baldo teaches using tris(2-phenylpyridine) iridium unit in a organic LED (pg. 4, Baldo). The Examiner stated that it would have been obvious to a person having ordinary skill in the art to use the iridium unit of Baldo in the polymer of Noguchi and the motivation to do so would have been , as Baldo suggests, phosphorescent units provide high quantum and power efficiencies (pg. 4, Baldo).

As noted above, Noguchi does not disclose the repeat unit presented in Claim 37. Without going in further merits of Baldo, Applicants note that Baldo does not overcome the deficiency of Noguchi over instant invention because Baldo does not teach or suggest modifying Noguchi to arrive at the repeat unit recited in Claim 37. Indeed, Baldo does not even disclose a dihydrophenanthrene unit, or any modification of a dihydrophenanthrene unit.

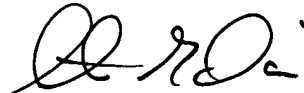
In view of the above, Claims 46-48 are non-obvious over Noguchi, in the view of Baldo. Reconsideration and withdrawal of the rejection are respectfully requested.

CONCLUSION

In view of the above amendments and remarks, it is believed that all claims are in condition for allowance, and it is respectfully requested that the application be passed to issue. If the Examiner feels that a telephone conference would expedite prosecution of this case, the Examiner is invited to call the undersigned.

Respectfully submitted,

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